

23rd HERITAGE MANAGEMENT SYMPOSIUM

Archaeology and the Natural Environment

Symposium, 24–25 March 2022

ABSTRACTS

DAY 1 – Thursday 24 March 2022 (12:00 – 16:30 CET)

Key Note Speech

Katrin VOHLAND

General Director Natural History Museum Vienna, Austria

Museums as mediators between the past and the future

Session 1 – Archaeology as habitat – monuments and sites as habitats

Andrea HASSLER, Oliver STÖHR, Andreas NEMMERT

REVITAL Integrative Naturraumplanung Inc., Austria

The Archaeological Landscape Park of Aguntum, an Alpine Roman Town in East Tyrol. Synergy between cultural heritage, landscape protection and biodiversity

The archaeological site of Aguntum, the only Roman town in the state of Tyrol, is located near the city of Lienz in East Tyrol. Around 10 years ago Aguntum showed a lack of attractiveness to visitors, an inconsistent appearance, and no clear line for future development. This led to the initiation of a broad-based process to define a mission statement for Aguntum in 2014. The goal was to create a common, homogeneous strategy that would serve as a future “big picture” for all decision-makers to orientate themselves by.

This “big picture”, how to develop Aguntum, was defined like this:

- an extensive, 5-hectare, exceptional archaeological experience space
- an old Roman town, designed by landscape conservation interventions
- a lively place where you can look over the shoulders of archaeologists and restorers
- a place to linger, where the close connection between nature and culture can be felt
- an unmistakable landscape space compacted by clear design principles, where decay and return have an equal effect

Based on this, a master plan was developed and implemented. Over the years, it has been possible to implement many measures, defined in the masterplan, while still sticking to the actual basic tasks:

- scientific excavation work and
- preservation or conservation of the monument

However, this requires the close cooperation of all decision-makers. For the last nine years, the steering group has been responsible for the development of Aguntum. Decisions are made jointly at regular meetings and further procedures are defined. The heterogeneous composition of the decision-makers (steering group) also enabled innovative approaches with a lasting effect, so it was possible to serve all perspectives and subjects:

- Cultural heritage (monument protection/archaeology),
- Landscape Park (tourist attraction) and
- Biodiversity

The positive effects of the project and the implemented measures, on the biodiversity of the region around Lienz has become apparent over the years. The different design or organization and the associated maintenance of the individual districts or areas has shown positive effects, which were confirmed in a study on the nature of Aguntum (Carinthia II, 2020).

The natural value of the archaeological site is based on the occurrence of valuable species and habitats, like protected and/or endangered animal and plant species, in a high representativeness for drought-loving species, in a high level of biodiversity in a small area, and finally in a great potential for even higher species and habitat diversity. Aguntum is a good example that cultural heritage and biodiversity are very closely related.

The development of the archaeological site of Aguntum over the last ten years shows a success story based on the integrative cooperation of all stakeholders including the experts of the respective fields.

Mariglen MESHINI, Ela MIZIRI, Rudina ZOTO

National Institute of Cultural Heritage, Albania

Butrint National Park Management – Combining Natural Park with Cultural Heritage

Inhabited since prehistoric times, Butrint (ancient Buthrotum), has been the site of a Greek colony, a Roman city and a bishopric. Following a period of prosperity under Byzantine administration, then a brief occupation by the Venetians, the city was abandoned in the late Middle Ages after marshes formed in the area.

The present archaeological site is a repository of ruins representing each period in the city's development. Nowadays, Butrint is an Archaeological Park under the patronage of UNESCO and Natural Park at the same time. The ancient city of Butrint is the best case of combining cultural heritage with the elements of the Natural Park.

Due to the climatic changes that have occurred in the last two decades, the archaeological site of Butrint (especially the area of the ancient theatre and the Roman forum) is covered by water at different periods. As a result, these monuments exhibit sustainability and conservation problems.

Because of these conditions, some of the monuments at the Archaeological Park of Butrint will face a new reasonable approach on conservation interventions and archaeological excavations. These interventions are regulated by the Management Plan implemented in 2021, which includes the management of cultural and natural assets. The Management Plan conditions determine, control and ensure a sustainable and long-term administration of the monuments and the site. The combination of the two aspects (the protection of cultural heritage with the elements of nature) is based on long research work. The Butrint Management Plan will be a challenge, giving the best example of the coexistence of cultural heritage with nature.

Elena VÁZQUEZ

Ministry of Culture, Spain

The wreck Mazarrón II (Murcia, Spain). Management of human and natural threats

Mazarrón is a township in southeasterly Murcia. Its coast is located between two capes: Tiñoso and Cope, around a Miocene coastal plain, between the Almenara and Algarrobo sierras. During the 20th century this coast suffered different alterations that have modified its previous morphology. The leisure port building caused new morphological changes and marine variations that brought on new sand deposits, altering ecosystem and the underwater archaeological sites.

Mazarrón's archaeological heritage is very diverse. We can suppose that it has been a strategic place with anthropic activity from prehistory to the present. Undoubtedly, two of the most relevant remains located in the area are the wrecks from Phoenician era, Mazarrón I and Mazarrón II. They were discovered in the summer of 1988 by the team of the National Centre for Underwater Archaeology Museum. The "Phoenician Ship Project" was organised on the Isla Beach from 1993 to 1995, when the bay bottom was exhaustively prospected. Mazarrón I was excavated and transferred to the museum. A second Phoenician ship (Mazarrón II) was localised in the spring of 1994. It measures eight meters length overall and two meters breadth. The ship carried a shipment of amphorae and metallic bullion. A kind of special box was designed to shield the ship from both natural and human actions. Archaeological remains were located on the wreck, taken out to avoid their looting and transferred to the Underwater Archaeology National Museum (Cartagena, Murcia) from 1999 to the early years of the 21st century.

Different actions were carried out by Mazarrón's City Council related to Mazarrón II, the only wreck that remains underwater: an interpretation centre was created in 2009 and a congress about the ship held in 2013. Based on their conclusions, a commission to find management solutions for the archaeological relic was created in 2014. Professionals from both the Mazarrón City Council, Región de Murcia and Ministry of Culture and Sports work together. In 2019, the National Plan for the Protection of Underwater Cultural Heritage Monitoring

Commission considered that the extraction could not be approved based on available information, it recommended other possibilities to enable in situ conservation. This disagreed with the position of the scientific commission created by the Región de Murcia (Autonomous Community, under the Spanish competence distribution). Both Commissions were summoned to meet later to seek an agreement.

Between August 23rd and September 3rd 2019, the Región de Murcia in association with ARQUA (heir to Research Center and Underwater Archeology National Museum) launched a scientific mission to determine the wreck's state of preservation, as there were indications that the metal protection structure had lost stability and could crush the wreck. The conclusion has become clear: the wreck must be extracted as soon as possible because the environmental conditions and human activities are endangering it. The Ministry of Culture and Sport and the Región de Murcia will organise an international conference to find the best solution to remove the wreck, save it and show it in the future in the ARQUA Museum.

Mattias SCHÖNBECK

National Heritage Board, Sweden

Sweden's first restoration of a burial ground – Hemlanden on Björkö

At the end of the 19th century, the ideal image of a prehistoric landscape was the wild and the abandoned. This applied to both natural areas and cultural heritage. An area that had been left in peace from human influence for a long time was sought. In nature conservation, the concept of "free development" was born, a concept that also came to apply to the management of cultural environments and ancient monuments. It went so far that The Royal Swedish Academy of Letters, History and Antiquities in 1874 awarded a landowner a medal for having "protected" a prehistoric burial ground by planting trees on it. The trees would help to emphasize the image of the abandoned and the wild. The royal mounds in Old Uppsala, which had been open and farmed were partly replanted in the 1880s. This view that nature should be left "undisturbed" existed in nature conservation as a form of protection until the beginning of the 21st century, and then as a simple and, above all, cheap form of management.

Birka on the island of Björkö in Lake Mälaren was an important Viking Age trading centre. Founded around AD 750, it flourished for more than 200 years and was abandoned around AD 975. Birka today is one of the 15 UNESCO World Heritage Sites in Sweden. The first scientific archaeological investigations at Birka were carried out by Associate Professor Hjalmar Stolpe during the 1870s and 1880s. The archaeological results attracted a great deal of attention. Prior to the plans to implement a comprehensive land reform (Laga skifte), the farmers on Björkö began to cut down the small amount of forest that existed on the island. A map from 1747 shows that despite the island being called Björkö, which means birch island, there was hardly any birch there. With this, the question of protecting the ancient remains was raised. Following a parliamentary decision in 1912, the state bought the northern part of Björkö, the area where most of the ancient remains are concentrated. The area covers about 150 hectares of which about 50 hectares are cultivated and the rest is meadow and pasture. After the purchase, all grazing and mowing on the Hemlanden burial ground was banned and the vegetation began to grow again.

By 1931 the land was so overgrown that trees had damaged several graves and measures had to be taken. Based on the historical maps and the desire to recreate the former meadows and pastures trees that grew in and next to the graves were removed and grazing animals reintroduced. Though the project was criticised and poorly financed at first, after seven years of work the criticism turned to cheers and applause. In 1950 Björkö was visited by about 20,000 visitors, in 1973 about 50,000 came and before the pandemic in 2019, about 80,000 visitors came to the island.

The National Heritage Board then let the experiences of the work on Björkö be a guide for the continued work in Sweden to nurture and make visible the cultural heritage. For several years, the work was run as a labour market project. In 1996, responsibility for the work was transferred to the country's 21 county administrative boards. There are currently more than 2,000 antiquities areas in Sweden that are managed in a similar way to Birka. But this care, whether it is carried out through mowing, clearing or grazing animals, is not only for the benefit of the cultural heritage but also for the benefit of the biological cultural heritage – nature that tells about culture. Since most of these areas are also located on privately owned land (private, municipal or church), long-term agreements between the state and landowners are necessary. The management is carried out either by the landowner himself, tenants or through contractors or local associations. Most of the costs for maintenance and information efforts are paid for through annual state cultural environmental conservation grants.

The experiment, which was started by the Swedish National Heritage Board more than 100 years ago because nature conservation had a goal of what real nature should look like, has not only saved several of the country's unique ancient monuments but also saved several areas with biodiversity.

Cyril DWORSKY

Curatorium Pile Dwellings World Heritage, Austria

Sunken landscapes and settlement areas. On the reconquest of archaeological sites under water

Due to their special location under water or in a water-saturated milieu, e.g. in mires, the prehistoric lake dwellings around the Alps were given a prominent role in the research and understanding of the past as outstanding archaeological sites and for ten years also as transnational serial UNESCO-World Heritage. Apart from the picturesque lake landscapes that are undoubtedly idyllic from today's perspective, the shores of the lakes were certainly challenging building sites. As the stratigraphy of many sites clearly demonstrates, the constantly changing water levels and floods created a complex and dynamic settlement environment already in prehistory. After the water levels rose and the village ruins sank under thick layers of lake marl, aquatic plants and animals eventually conquered these shallow water zones and the main orientation of the littoral landscapes changed from human to nature shaping new underwater habitats.

However, humans are still in the picture, and at least since the middle of the 20th century abundant construction activities at lake shores and the disappearance of reed belts have led to shallow water zones in some places almost swept empty – with huge impact on the

archaeological sites. Long protected by the sediments, modern developments around the lakes are increasingly endangering the preservation of this underwater cultural heritage through massive building pressure, sprawling tourism, but also changes in fauna and flora: pile-dwelling sites have become popular habitats for various invasive species, which often cause significant damage.

The aim of this paper is to showcase related heritage management and protection concepts. Conservation zones and landscape protection areas might result in a tension between nature conservation and cultural heritage protection. On the other hand, renaturation and monument protection measures can kill two birds with one stone (apologizing to the environmentalists) and contribute to the protection of endangered species and pile-dwelling sites alike. Even more today, as issues such as water protection – e.g. the problematics of microplastic – and climate change require new concepts to bridge the gap between nature and culture.

Jan MAŘÍK, Martin TOMÁŠEK

Institutes of Archaeology of the CAS and National Heritage Institute, Czech Republic

Archaeology and the natural environment in the Czech Republic. Recognition, documentation and protection in a time of climate change

The Czech Republic belongs among countries with abundant traces of ancient or recent human activities. Many archaeological sites, dated to the Modern Era, emerged, for instance, as a consequence of the unfortunate events following the end of the Second World War (the expulsion of the German population and the building of the so-called Iron Curtain resulting in the disappearance of hundreds of villages and small towns). Many of them have become part of the landscape, and their protection is subject to nature conservation. The state Nature Conservation Agency of the Czech Republic is in charge of nature and landscape protection; however, as far as the cultural heritage fund is concerned, the National Heritage Institute and the Institutes of Archaeology of the CAS are entrusted with its protection. Nature and landscape protection is governed by a separate law, just like the protection of the cultural heritage fund. Currently, both fields of landscape management – cultural heritage and nature conservation – are not legally linked together. However, humankind presently faces many challenges related to climate change. A considerable part of the Czech Republic has been forested with spruce monocultures, which are nowadays at risk of disastrous bark beetle infestation and consequently the destruction of forest stands. Such a development forces us to seek common grounds for landscape conservation and more consistent communication in setting forest management rules. Nevertheless, the trend of rapid deforestation implies a considerable threat to the hitherto unknown but also known archaeological heritage fund. It is possible to mention examples of successful and unsuccessful cases of nature conservation and cultural heritage protection. Joint advocacy of the values associated with archaeological sites incorporated within the processes of landscape change assessment constitutes a distinct task aimed at ensuring that such an essential part of the landscape's memory becomes a publicly accepted value.

Session 2 – Archaeology and biodiversity – understanding species introductions, distributions and extinctions over time

Bea DE CUPERE, Wim VAN NEER

Royal Belgian Institute of Natural Sciences, Belgium

Faunal remains from archaeological sites in Brussels reflect anthropogenic changes during the last two millennia: messages to the general public and stakeholders

Faunal remains can be collected at archaeological sites when preservation conditions are good and adequate recovery techniques are used. Besides the reconstruction of human subsistence, herding and breeding practices, the exploitation of animals, trade and other economic activities, faunal remains also allow inferences about the natural environment in which people lived in the past. These archaeozoological results are of interest to archaeology as they help, together with many other disciplines, to approach humans in a holistic way. However, the paleo-ecological information provided by archaeozoology and by other disciplines such as macrobotanical analysis, anthracology and palynology (that are at the interface of archaeology and natural sciences) also has the potential of contributing to the debate of human environmental impact throughout the centuries.

The focus in this paper is on faunal spectra seen in archaeological sites that show differences from the present-day animal world due to environmental changes that took place as a result of climatic change or anthropogenic impact, or a combination of both. Starting from the archaeozoological results obtained on about 25 sites in the Brussels region, it is shown to what extent terrestrial and aquatic faunas have undergone changes during the last two millennia. Examples include the reduction in numbers, or even total disappearance, of larger wild mammals as a result of habitat degradation and overhunting, the effects of climatic change, overfishing and pollution on the fish faunas, and the introduction of new species. The animal occurrences in the past show which species are to be considered autochthonous and represent a baseline against which modern faunas can be compared.

Bringing this message to a wider, general public has been done through publications, exhibitions and lectures that focus not only on the paleo-economic aspects (which up to now received most attention) but also on the aspect of human impact on the environment. Thus far poorly or totally unexploited fora are websites, social media, radio or television interviews, and documentaries. We give a few examples of when and how the archaeo(zoo)logical data can contribute to the public debate by actively responding to certain news facts. This kind of self-advertisement is, however, also a strategy worth pursuing in the academic world where archaeozoology is still mainly seen as a social science. Several rather recent publications dealing with faunal changes seem to have been picked up by biologists and ecologists working in nature research institutes. There is a growing awareness that archaeozoology can contribute to the diachronic study of environmental changes and that it has the advantage of going much farther into the past than written documents. Possibilities for future valorisation of archaeozoological data lie in the joint application for funding and execution of research programs by mixed teams. By contributing from their own discipline, biologists and

archaeozoologists can bring a balanced, well founded message to policy makers that may allow them to define realistic restoration programs.

Hanna HRISTOVA, Kalina PETKOVA

National Archaeological Institute with Museum, Bulgarian Academy of Sciences, Bulgaria

What's down the hole? Archaeobotanical Evidence on Plant Subsistence and Vegetation during the Hellenistic Period at the Archaeological Site Near Voditsa Village, Northeastern Bulgaria

The archaeological site № 5012-West in the territory of the village of Voditsa, Targovishte Region, Northeastern Bulgaria, is interesting with its features and wide chronological range. On an area of 5,800 m², a total of 116 structures from various chronological periods have been excavated. However, pits from the Hellenistic Period (late 3rd – early 1st century BC) are most numerous and provide invaluable archaeobotanical evidence on plant subsistence and local vegetation. The archaeobotanical remains have been recovered from flotation samples, collected from the pits' fills. The archaeobotanical assemblage is comprised of carbonized remains from several annual cereal crops – hulled and free-threshing wheats, naked barley (*Hordeum vulgare* var. *nudum* L.), millet (*Panicum miliaceum* L.), oat (*Avena sativa* L.) and chaff. The weedy flora is represented by annual ruderal and synanthropic species such as goosefoot (*Chenopodium album* L.), bedstraw (*Galium aparine* L.), knotgrass (*Polygonum aviculare* L.), and wild mustard (*Sinapis arvensis* L.). These wild growing plants usually colonize areas of already destroyed natural vegetation and enter the cultivated fields as weeds. Seven of the analysed samples consist mainly of charcoal fragments from deciduous arboreal species which indicate intensive burning in the studied area, but also provide information on trees distribution and exploitation in the region during the period between the second half of the 3rd and the beginning of 1st century BC. On the basis of the discovered plant remains we can only propose a partial reconstruction of the agricultural practices and local vegetation cover.

However, the collection of samples from specific contexts – storage facilities and pits, provided an opportunity to observe the “secondary environment” of the utilized plant resources and to identify possible depositional and post-depositional processes. Thus, taphonomic and contextual analyses gave us important insights into the environmental and behavioural factors that affected the composition of the archaeobotanical assemblage.

Leo KLINKE

LVR-State Service for Archaeological Heritage in the Rhineland, Germany

Cultural landscape change from Late Neolithic to Late Middle Ages in northern Westphalia

In a methodologically exemplary study area in northern Westphalia, it has been possible to identify a cultural landscape that has existed since the Late Neolithic. This was manifested in the first period by the appearance of slash-and-burn indicators in off-site poll data and in the human accumulation of erratic blocks (post-glacial boulders). Besides the clearing of arable land, these boulders were also used as building material for megalithic graves. The complex interplay of landscape relief, visibility and monument proves that these sepulchral monuments were also understood as elements structuring the landscape, with visual connection to geological phenomena. Through this, not only the monuments themselves, but probably the entire landscapes were transcendently semiotized, i.e. linked with corresponding symbolism.

The Late Neolithic settlement chambers imply landscape-spatial and mental concepts of the locally settling population such as territoriality and demarcation of own and foreign. Nevertheless, it is possible to reconstruct pathways between regional groups through the settlement chambers, via which successive material and mental exchange as well as a targeted and untargeted dispersal of various plant species took place.

In the following Metal Ages, the formerly rather local and regional path networks are replaced by supra-regional connections that evolve into communication corridors over time. Though using completely different locations, the Metal Age burial mounds still show visual references to the older megalithic tombs. What is particularly striking, however, is that there was no intervisibility between the barrows and the arable plots of the first phase of expansion of the Celtic Fields. Thus, at this time, the world of the everyday was visually separated from the routes of communication and the world of transit.

Strikingly, two contemporaneous Early to Middle Iron Age barrow cemeteries within a sight distance of less than 1.5 km show no demarcation by any natural factors and no signs of social and ideational acculturation. Two different burial customs can be attributed to a socio-cultural distinction demonstrating a regional subdivision and landscape structuring for this time slice.

This previously immaterial boundary seems to have materialised in the late Middle Ages as a Landwehr-like triple rampart section, erected in the study area within the context of the Osnabrück city Landwehr construction between 1397 and 1399. Subsequently, around c. 1600 the barrage was extended to form a complex, multi-levelled rampart-ditch system. This barrier monument formed an inescapable element influencing and constituting the perception of the landscape, staged as the climax of a hodological landscape dramaturgy.

The excavation profiles of the neighbouring burial mounds confirm that the first heathlands from the Late Neolithic onwards became increasingly extensive until they became vegetation that shaped the landscape in the time slice of the barrier monuments. The Late Medieval Landwehr section not only formed the administrative boundary between the parishes of Westerkappeln and Wersen. In the first construction phase it also served the practical protection of the settlements behind it and the agricultural areas. This makes an implicit reference to the agrarian use and livestock keeping of the late medieval population.

In the diachronic synopsis, it is evident that the cultural landscape was constituted around a geological phenomenon into a sepulchral landscape from the Late Neolithic onwards, then persisted for at least three millennia and was then, however, profaned in the Middle Ages. The new absolute dating now made it possible to synchronise the changes in the natural environment with changes in the anthropogenic material-cultural traces in the study area. This revealed the continuous, witting but also unwitting influence of humans on their

surrounding environment. Based on the newly developed method, the study area reveals that the change in biodiversity is no longer documented exclusively in the off-site poll data, but can now also be read from the anthropogenic archaeological relics.

Session 3 – Archaeological heritage and natural heritage management – conflict or collaboration in protecting nature and archaeology?

Rachel OPITZ

Archaeology, University of Glasgow, Scotland

with contributions from the ipaast-czo team: Philippe De Smedt (Department of Environment, Ghent University), Stefano Campana (Archaeology, University of Siena), Victorino Mayoral-Herrera (Archaeology, CSIC), and Marco Vieri (Department of Agricultural, Alimentary, Environmental and Forestry Sciences, University of Florence)

Remote sensing data to support integrated decision making in cultural and natural heritage management – impasses and opportunities for collaboration in agricultural areas

Within the revised Common Agricultural Policy (CAP) and emerging UK agri-environment schemes, natural heritage and natural environment management are increasingly framed as part of integrated, sustainable land management (Donkersley, Carver & Wentworth 2021; Mueller et al. 2021). In this context, improved soil mapping and soil condition monitoring provide important information needed to support integrated land management in agricultural areas. A range of remote and near-surface sensing methods are being used to support soil condition assessment and to enable monitoring (Angelopoulou et al. 2019; Romero-Ruiz et al. 2018). Remote sensing technologies are equally being implemented to support reporting of the impacts of changes in land management and land use (Schiavon et al. 2021; Ventner & Sydenham 2021). High resolution soil mapping and condition monitoring is a domain with significant potential for collaboration between natural environment and cultural heritage practitioners, because anthropogenically modified soils are a form of cultural heritage in themselves (Ibáñez, Krasilnikov & Saldaña 2012; Edgeworth 2018; Nicoll & Murphy 2014) and because buried archaeological deposits form an integral part of soils and impact on their functions (Richter 2007; Edgeworth 2021). Land cover change mapping provides further room for collaboration, as it is relevant to agri-environment monitoring and to historic landscape characterisation and monitoring (Andries et al. 2021; Dabaut & Carrer 2020). More detailed crop monitoring, motivated by the drive to better understand reasons for in-field variability in crop development (e.g. Marino & Alvino 2019), constitutes another area of potential collaboration, as buried archaeological remains are well known to impact on crop development (Agapiou et al. 2013).

This paper outlines the ipaast-czo project's ongoing work to improve interoperability between remote and near surface sensing data and methods used across agri-environment, natural and cultural heritage management applications. It focuses on technologies and methods used in precision agriculture as potential sources of data for these applications. It specifically reviews sources of data currently used in agri-environmental land management which are not

widely used in cultural heritage management and presents evaluations of their potential uses and limitations. It then considers potential agri-environmental applications for data collected for cultural heritage management.

This work is contextualised in the broader work of the ipaast-czo. The project is developing interoperable fieldwork methods, datasets and metadata standards for archaeological and precision agricultural remote and near-surface sensing. The project aims to bring together practitioners in archaeology, heritage management, and precision agriculture who are interested in measuring closely related properties of topography, soils and crops, and have overlapping data collection and analytical routines. The project investigates how to benefit stakeholders in agricultural and broader rural communities through improved understanding of cultural heritage resources in agricultural landscapes and better accounting for the impacts of buried archaeology on soil and crop conditions, based on the use of shared remote and near-surface sensing data sources. In parallel, it investigates how insights from precision agriculture can be used to improve interpretation of archaeological remote and near-surface sensing data and to scale up our capacity for data collection.

Thomas BECKER

State Office for the Preservation of Monuments Hesse, Germany

Experience between nature conservation and archaeology of the old water system in southern Hesse/Germany

The natural area between the rivers Rhine, Main and Neckar and the mountains of the Odenwald is the southern part of the federal state of Hesse in Germany. The landscape of the area is characterised by the oxbow lakes of the above-mentioned rivers, which can still be experienced today as waterlogged areas, wetlands and cultural landscape elements. The areas in between are old settlement landscapes whose use and settlement can be traced back to the Palaeolithic period.

The archaeological and geoarchaeological research of the old streams in recent years shows the archaeological potential of these old waters in many aspects. They served as places for sacrifices, were transport routes and living spaces, were artificially manipulated for landscape development and form an invaluable archive for reconstructing landscapes for the different periods of cultural landscape history.

The changed archaeological perception of the oxbow lakes as cultural landscape elements and monuments worthy of protection leads to overlaps with the protection claims of nature conservation for these areas. In part, this results in protection goals for the same areas due to different legal requirements. However, there are also different, in part contradictory conservation claims, which, without a higher level of consideration and decision-making, allow both interests to work side by side as an unresolved conflict. Finally, nature conservation regulations limit the possibilities of monument research and thus of better protection and monitoring. During the lecture, these experiences will be compiled and reflected upon against the background of how cooperation and the different conservation goals as a common interest can be improved in the future.

Thor Ingólfsson HJALTALÍN / Kristín Huld SIGURÐARDÓTTIR

Cultural Heritage Agency, Iceland

Archaeological Heritage Management and the Natural Environment. The Experience from Iceland

In the beginning of 2022, a major change was made in the administration of archaeological heritage protection in Iceland, when the Cultural Heritage Agency of Iceland was moved from the Ministry of Culture over to the Ministry of Environment. This change did indeed not come by a surprise and in a parliamentary motion, argument for it was presented.

The cultural heritage management has a much longer tradition in Iceland than the natural heritage management, as the first archaeological sites were put under state protection in 1817, while the oldest nature preservation legislation dates from 1956. At an organizational level these issues evolved quite independently. In recent decades, however, more emphasis has been laid on nature conservation, which has attracted considerably more funds and efforts. During the last election period, the Green-party came to power in Iceland. With an enthusiastic Minister of the Environment at the forefront, work was done to establish a new Highland National Park that would cover about 40% of all of Iceland's land area. While this was meant to simplify all administration in the area, a great deal of uncertainty was created about the implementation of archaeological conservation within the national park as well as the influence of the institutions.

Regarding the preservation of cultural monuments, in recent decades there has been an increased emphasis on preserving cultural landscapes and areas that are within nature conservation areas and national parks. This has caused a problem as the administration of protected areas is then in the hands of two different institutions, i.e. The Environment Agency, which reports to the Ministry of the Environment, and the Cultural Heritage Agency, which reports to the Ministry of Culture. These are based on two different legislations, i.e. the law on cultural monuments and the law on nature conservation. This problem became evident recently when dealing with the protection of an entire valley, Þjórsárdalur in southern Iceland. The Minister of Culture, on the initiative of the Cultural Heritage Agency, protected the valley on the basis of the cultural landscape and the Cultural Heritage Act, at the same time as the Minister of the Environment, on the initiative of the Environment Agency, protected the valley on the basis of nature and nature conservation. In this presentation we will discuss the problems that this dual system can create.

The co-operation of these directorates on these issues has been successful in many respects but has also created uncertainty and tension. This has now been addressed by the transfer of the Cultural Heritage Agency to the Ministry of the Environment. The move will hopefully make the administration simpler, having both these fields in the hands of the same minister. As the preservation of archaeological remains and cultural landscapes has been classified as an environmental issue in the government system, it is important not to forget that the issue is no less a cultural one. The transfer to a new ministry involves various opportunities, such as better coordination of heritage and nature conservation and possibly better utilization of funds, but at the same time care must be taken to secure that the heritage conservation does not lose its uniqueness and becomes just one small department in a large nature conservation directorate. It is therefore important to develop this co-operation carefully

in the coming years, and it is important to learn from the experience and take advice from our neighbouring nations in that regard.

Anu LILLAK

National Heritage Board, Estonia

Natural management and protection of archaeological sites in Estonia

Archaeological heritage sites are part of the modern-day cultural landscape, but archaeology is mostly situated in a natural environment. Even though the National Heritage Board as the manager of the archaeological heritage in Estonia does not own any land or monuments, the state owns a large number of archaeological sites. State management companies have various duties including visitor management, education and (nature) conservation. The development and promotion of archaeological sites is mostly seen close to nature paths or other types of attractions. Therefore, it seems that archaeological sites benefit from hiking trails – the enhanced infrastructure is attracting visitors, but also helping to preserve the archaeological layers as intact as possible.

In addition to the physical additions and improvement of the sites, archaeology can be better preserved with the help of legislation in other areas. Several archaeological monuments or their vicinity are or have been protected by the Nature Conservation Act. Double protection of the sites has been considered unreasonable and has been revoked for several sites, but in some cases, it has shown how the different protection regimes have added up to maintain the site as a whole.

The presentation discusses a few examples of state managed sites and how improving the network of nature trails has helped archaeology and also introduces case studies that show the benefits and challenges of managing sites that have several protection regimes.

Christine WOHLFARTH

LVR-State Service for Archaeological Heritage in the Rhineland, Germany

Reconciling the protection of nature and monuments – Large-scale nature conservation project between Siebengebirge and Sieg

Since December 2010, the Rhine-Sieg district has been receiving funds from the Federal Environment Ministry for the large-scale nature conservation project “chance.natur: Natural and Cultural Landscape between the Siebengebirge and the Sieg”. The LVR-State Service for Archaeological Heritage in the Rhineland supports the district and municipalities with an archaeological heritage project to implement the interests of the protection of cultural assets within the framework of the large-scale nature conservation, funded for two years by the DBU – The German Federal Environmental Foundation since December 2011.

As a first step, the main task of the large-scale nature conservation project covering more than 10,000 hectares was to draw up a maintenance and development plan until mid-2013. The second step was to use this plan of measures to determine in detail what exactly is to be implemented in the assisted area over the following ten years.

This means setting the course for the sustainable, future-oriented cultural landscape development of this region in the coming decades. Since the focus has primarily been on environmental protection with the aim of biotope networking and the spread of site-appropriate plants and animals, it is the task of the LVR Office for the Preservation of Archaeological Monuments to take the topic of archaeology into account.

The goal of this project is a close cooperation between preservationists of nature as well as of cultural heritage to integrate the cultural landscape and above all the cultural assets into the overall process, to ensure that its valorisation is compatible with nature and monuments, and to protect them from environmental influences.

Using two sample objects from each of the different management areas – forest, arable land and grassland – various prospection methods are used to investigate the increasing risk of erosion to the cultural assets. The erosion is a result of climate change and of the management practices, the human impact and interference in the project area. Supplementary evaluations and surveys of cultural landscape relics in the forest and grassland as well as archaeological surveys, soil research, geophysical investigations, and small trial trenches, have been used to specifically determine the risk of erosion and the preservation of monument substance in the various landscape areas with their different forms of use and cultivation.

The results of the thus recorded data are processed in a geographical information system and interesting cultural assets are made accessible to the public via KuLaDig (culture, landscape, digital – an internet-based information system). Concrete implementation recommendations for the integration of the cultural assets into the maintenance and development plan of the large-scale nature conservation project are continuously exchanged between the stakeholders in the sense of environmental communication and to reduce obstacles in the cooperation.

On the basis of criteria that correspond to utilisation and protection requirements, holistic sustainable guidelines for the conservation of cultural assets are being developed that reconcile the interests of farmers and foresters working in the project area in particular, as well as those of nature conservation and cultural asset protection, and that optimise the path towards integrated cultural landscape management.

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Unified preservation of archaeological and natural values. The experience of Latvia.

In the relatively small territory of Latvia (64,589 km²) specially protected nature areas have been identified: national parks, biosphere reserves, nature parks, protected landscape areas, nature reserves, strict nature reserves, etc. Micro-reserves for the protection of specially

protected species and habitats are also established. These areas have different protection and management regimes, and general regulations defined in the law on Specially Protected Nature Territories. Special management plans are being developed for such areas, which include sections on cultural and historical values, but they are often of a purely formal nature. Moreover, there is a different regulatory framework for the preservation and protection of cultural monuments. Archaeological monuments located in a protected nature area are particularly well preserved, depending on protection and management regimes.

In the western part of Latvia there are several protected nature areas, including Moricsala Nature Reserve and Slītere National Park, which also includes part of the scenic Baltic Sea coast.

Moricsla nature reserve founded in 1912 is the oldest nature reserve in Latvia. It is situated on two islands in Lake Usma. It is a strict nature reserve. Entry into the reserve is prohibited except for scientific purposes. In the territory of the reserve there is a Mesolithic settlement, the preservation of which is mainly influenced by natural conditions and not by human activities. The Slītere National Park was created as the “Slītere Natural Monument”, which in 1923 was established as a protected natural beauty in an area of 1,100 ha. of national park. Formally established in 2000, it is the smallest national park in Latvia. It shows the historical development of the Baltic Sea. Nowadays, evidence of geological events can be seen in the Blue Hills of Slītere, which stand 20 to 30 metres high above what was the shore of the Baltic lake of ice 10,000 years ago. The Soviet military machine was of a certain value in the preservation of natural and archaeological values, leaving behind army bases and other military objects in the area. The presence of the military meant that the area of what is now the Slītere National Park remained largely undisturbed for 50 years. Archaeological monuments in Slītere National Park are located in the territories of various protection regimes, which determine the conditions and possibilities for their maintenance.

The seacoast landscape of Latvia is included in the Latvia’s Cultural Canon, which does not impose legal obligations, but highlights the landscape as a value. The preservation of archaeological monuments in these areas, including important Stone Age settlements, is influenced by natural processes and human activities. Preservation of natural and cultural values are not in conflict until the arising of conflicting interests of management and use related to the implementation of nature protection measures, the establishment of tourism infrastructure and construction.

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Where the twain shall meet: International rules for the protection of heritage and nature

Our world has many advocates for the protection of nature, as well as for the protection of heritage. In practice, these often turn out to be very different domains, with networks showing hardly any overlap. It should therefore come as no surprise that the international rules for the protection of these different domains also coexist. And, to start from the heritage perspective: certainly when it comes to landscape or archaeological values, there will often be interests of

nature protection that must be taken into account. It concerns physically the same places, which are managed with different legal frameworks. The question is whether the rules that determine the management of such places reinforce each other, or do the opposite.

In all cases it is desirable that the people concerned with the protection of nature and heritage have knowledge of each other's legal playing field.

This paper will provide a short introduction to the international rules relating to the protection of nature and heritage. In doing so, it emphasizes the European situation, as determined by the United Nations (especially UNESCO), the Council of Europe and the European Union.

It will then be analysed why these rules can reinforce each other and where they may conflict. This way it is hoped to offer some guidance to the managers of archaeological heritage in Europe.